‘Diagrams of Motion’

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Abstract

Jean-Luc Godard wrote that 'The cinema is not an art which films life; the cinema is something between art and life' (Roud, 2010: 6), an observation particularly true of stop-motion animation. The filmmakers discussed in this essay, Jan Švankmajer and the Brothers Quay, share a fascination with the latent content of found objects; they believe that forgotten toys, discarded tools, and other such objects contain echoes of past experiences. Extrapolating Švankmajer's belief that memories are imparted to the objects we touch, the manipulation of his found objects as puppets in his films becomes a means of evoking and repurposing their latent content, just as the Quays develop their dreamlike films from the psychic content they perceive in their armatures. Making a case study of a selection of these animators' short films, this essay examines the practice of stop-motion animation against that of kinetic sculpture, unpicking the complexities of the relationship between the inherently static mediums of sculpture and photography – symbolic of a fixed moment in time - and that of stop-motion animation, a temporal pocket in which these fossilized moments are revived once more.

Keywords

Švankmajer, Brothers Quay, stop-motion, kinetic sculpture, puppets, animation, aesthetics

Introduction

The relationship between the live-action film and the animated one is a continuation of André Bazin's discussion of 'The Ontology of the Photographic Image'; just as 'photography does not create eternity, as art does, [but] embalms time, rescuing it simply from its proper corruption' (Bazin, 1967: 14), live-action filmmaking halts the march of time for its subjects

while animation creates time for that which has none of its own. Live-action filmmaking, like stills photography, reduces time to a series of signifiers, referents to a specific moment; stop-motion animation employs the evocative quality of the plastic arts to give the illusion of occupying the same temporal reality as its audience. Each cell, each frame of the film, becomes a symbol of a moment which no longer exists, joining the infinitude of photographs, paintings, and sculptures that Jeremy Mark Robinson dubs 'dead moments […] once-but-never-been moments' (Robinson, 2007: 141).

Naturally, the existence of the artwork as a physical object in its own right allows for the accumulation of a patina of new moments and memories as it ages, as is true of any object that time gradually weathers into an artefact. Believing that these experiential memories are absorbed and contained within an object as latent memories, Jan Švankmajer animates his repurposed bric-a-brac in an effort to elicit their contents in the same way that a projector reassembles the fragments of time contained by a film reel. Similarly, the Quay Brothers place their puppets within enclosed systems of abstract narrative, choreographing hypnotic sequences of movement within a liminal and hermeneutic space that simultaneously abstracts and amplifies the emotional contents of their material. In their use of clay, puppets, and armatures, the aesthetics of these animators are decidedly sculptural, and so it may be said that their animations are kinetic sculptures, sculptures that move.

This term, however, holds further meaning as a code of practice in which, George Rickey explains, 'the artist uses movement itself (which combines space and time) to make art, as the painter uses color, or the composer the notes of the scale' (Selz, 1966: 13). The use of 'kinetic' as a critical term is a relatively recent one, and it 'was universally employed around 1860 to describe phenomena connected with movement in physics and chemistry […] In mechanics it held a different sense from the words "cinematic" and "dynamic"' (Popper, 1968: 94-95). While the term 'cinematic' is, in its current usage, generally a rather vague means of

indicating a likeness to the filmic form, be this due to movement, aesthetic, or *mise-en-scène*, these pre-cinema theories of movement are distinct in their meanings: kinematics, to use the modern spelling and so distinguish one term from another, is the study of motions such as acceleration and velocity in isolation from causation; kinetics, a term which has since been largely superseded by 'dynamics', investigates the effects of these forces on physical objects, studying motion and its causes over time.

Though these terms may not appear of direct relevance to a study of film, it is useful to note that by the close of the 19th century 'the Germans […] had adopted the term "kinetic arts" for the arts of gesture' (Popper, 1968: 95). Indeed it is in the year 1860, with the beginnings of the Impressionist movement, that Frank Popper roots his titular study of the *Origins and Development of Kinetic Art;* 'this period', he notes, 'also marks the first stage in the "isolation" of sense data – colours, lines, tones and eventually movement – that was to be the indispensable stage in the preparation of a pure or abstract art' (Popper, 1968: 7). Popper's study traces this fascination with the depiction of motion in the visual arts from the Impressionism of Manet, Monet, and Degas; the respective depictions of objective and subjective movement represented by the Post-Impressionist paintings of Seurat, Degas, and Van Gogh; Cubism, in which 'the subject was "essentialized" through a combination of multiple views, and the resultant impression was one of "static movement"' (Popper, 1968: 37); onwards to the Futurism of the early 1900s in which 'the *idea* of movement takes precedence over the perception of movement or the emotions associated with it' (Popper, 1968: 43, emphasis in original). He moves on through the 'psychophysiology' of geometrical abstraction and the 'psycho-analysis' of Surrealism (Popper, 1968: 71), noting the intellectual symbolism of Max Ernst, the automatic paintings of Joan Miró, and the action paintings of Jackson Pollock, to the constructivism of Maholy-Nagy and the concept of kinetic sculpture. Common to this century-long section of art history is a desire to achieve in the plastic arts a signification of movement, of a dimension

which it does not naturally possess, but also, in the Surrealists' interest in the theories of Freud and Jung and the gestural art of Miró and Pollock, the crystallisation of the ephemeral and vitalist qualities of the artists themselves.

In a similar fashion, the stop-motion films of Švankmajer and the Brothers Quay imbue inanimate objects with the gift of motion and the appearance of interaction with physical forces in real-time. In the motions of their puppets are made visible the actions of the animators, and thus the static sculptures are made participant in the art of gestures by the temporal medium of film. By extension, our willingness as an audience to suspend our disbelief and accept the apparent sentience of the (in)animate objects onscreen is accompanied by the knowledge that an external, invisible force is responsible for their actions. In Švankmajer's work, this is most evident in the gestural sculptures formed in the muddy ground of *The Fall of the House of Usher* (1980), which will be discussed below. In the Quays' films, there is a subtler yet more pervasive sense that the 'figures' onscreen are motivated by an external vitalist energy drawn from the filmmakers' source material. This motivation of the physical by the ephemeral sets the stop-motion found-object aesthetic of Švankmajer and the Brothers Quay in parallel with the practises of kinetic sculptors such as Jean Tinguely, Harry Kramer, and animator turned kinetic sculptor Len Lye. By Popper's definition:

> Kinetic art covers all two or three-dimensional works in actual movement, including machines, mobiles and projections, whether controlled or uncontrolled: it also covers works in virtual movement, that is to say, in which the spectator's eye responds quite clearly to the physical stimuli. (Popper, 1968: 95).

As such, the stop-motion films of Švankmajer and the Brothers Quay can be viewed both as three-dimensional works (their animated objects) and as projections (the viewable film). The 'figures' within the diegesis of their films, to be discussed further below, represent a similar means of creating art from motion as do the works of the kinetic sculptors named above. It is

the object of this article, therefore, to examine the aesthetic and ideological underpinnings of the work of these filmmakers against the practice of kinetic art in order to identify and assess areas of common ground.

It is not my intention to contend that these animated films are in fact kinetic sculptures, but instead to suggest that interpreting their choreographed diagrams of motion as we would a kinetic sculpture provides an interesting means of understanding the creative processes of these filmmakers. Expressed in the animated aesthetic of these filmmakers is a fascination with the representation of the invisible via the manipulation of the physical which is shared with practitioners of kinetic sculpture. By examining the work of Švankmajer and the Brothers Quay through the lens of kinetic sculpture, therefore, this article will argue that despite the remarkable wealth of visual detail in their found object aesthetic it is the movements of the objects, and not the objects themselves, that are of greatest importance to these filmmakers. Their animations do not serve simply as illustrations of a narrative but as amplifications of its emotional content; the physical forms of the object-puppets signify their latent contents, but it is their movements which present the viewer with meaning. As kinetic sculptor Gianni Colombo explains of his practice, 'Our work, in particular, consists in giving a concrete realization to ideas which may be communicated only optically, not, for example, verbally, and which otherwise would go unexpressed' (Cited in Selz, 1966: 32). Similarly, for both Švankmajer and the Quays, stop-motion becomes a gestural poetry, a means of communicating that which defies words.

Jan Švankmajer: The Transmutation of the Senses

As an animator known for his manipulation of material objects such as clay and raw meat, Švankmajer is often discussed in relation to the intensely sensory quality of his aesthetic; where Cathryn Vasseleu considers the effective means by which Švankmajer conveys a sense of the

tactility of the objects in his films against the development of haptic technology, 'the only sensory modality that permits bi-directional information transfer between users and the virtual environment' (Vasseleu, 2009: 143), Dagmar Motycka Weston takes a phenomenological approach in order to examine 'the synaesthetic nature of perception' as represented by his work (Weston, 2011: 14). Common among his recurring motifs of decaying architecture, distressed surfaces, broken toys, clay, and meat, is a rich sense of physicality. As such, it is with the materiality of Švankmajer's animations that this study will begin.

As Roger Horrocks observes in his book length study of the life and work of Len Lye, 'viewing art can vicariously involve the sense of touch when we respond to a work such as a thickly-painted Abstract Expressionist canvas, running our eyes over the textures and imagining the actions of the brush' (2009: 102). Confronted with a Švankmajer film, the viewer discovers a similar experience: the rhythmic movements of the mercurial clay in *Dimensions with Dialogue* (1982) captivate as the distinctly defined fingerprints of animator Vlasta Pospísilová flow across its surface, while the slabs of meat that perform their seductive dance in *Meat Love* (1989) evoke a visceral reaction as they glisten and squelch their way to a sizzling climax. Reflected in this fascination with the sensory qualities of material objects is the filmmaker's life-long interest in the relationship between the sense of touch and the imagination. 'The physical sense', as he refers to it, occupies a unique position among the senses as a bi-directional experience: 'while touching, we project a sensation outwardly, outside of us; at the same time we perceive it subjectively, on our skin' (Švankmajer, 2014: 2). This meeting point of the subjective and the objective experience lies at the heart of Švankmajer's artistic interests as a means of inciting the associative and creative powers of the imagination free from the stimulus of vision, and manifests in his films as a palpable sense of tactility: his focus on the surfaces of his materials force his viewers to imagine the sensation of touching them.

Beyond his interest in the superficial aspects of aged and distressed objects and materials, however, Švankmajer exhibits a keen interest in the material properties of his inanimate subjects; *Dimensions of Dialogue* is a key example of the repeated breaking down and reforming of physical matter as each pattern of repetition draws to its violent conclusion. Social (and political) commentary aside, the repeated reduction of physical materials to their basest forms involves an overt display of destructive energy. The same energy that was transferred from the animator's hands to shape the clay, to arrange the utensils, is subsequently employed to crush the figures, and in doing so makes the force of the blows palpable to the film's audience. This transference of energy indicates an interest not just in the physicality of his materials or the visual impact of his films, but also in the invisible forces that motivate them. As Horrocks observes of Lye, the exemplar filmmaker turned kinetic artist:

> He took a deep interest in all aspects of energy, and assumed that any kinetic artist would do the same. This theme was one of his main ways of linking film and kinetic sculpture. He liked to reflect on the process of direct film-making – how the energy of his mind and hand movements could produce images on a small strip of celluloid, which were then animated as a screen-size visual dance by the electrical motor and lamp of the projector, while an optical soundtrack pattern was converted into the energy of music (2009: 122).

Though Švankmajer's concern lies primarily with tactility and the latent contents of the objects that he animates, the very process of awakening or evoking the inner life of the inanimate equates to a channeling of vitalist energy. His artistic influences, too, speak to an interest in the evocation of a dynamic energy; Roger Cardinal explains, 'in a way Arcimboldo is one of the first animators – producing still images clearly – but they are already, potentially, about to move off from representing a face, if you like, to becoming dances of objects' (Švankmajer, 2007: *The Cabinet of Jan Švankmajer*), and this is precisely what Švankmajer's heads do – they charge at each other, devouring and destroying themselves as one collection of objects seeks to prove itself superior to the other.

The conversion of aural information into visual information is an aspect that also features in Švankmajer's work, most notably in *J.S. Bach – Fantasia in G Minor* (1965). In a similar fashion to Lye's *A Colour Box* (1935), *Bach* synchronises abstract imagery, formed from decaying architecture, with a soundtrack – the titular *Fantasia in G Minor*. Where Lye's film is a frenetic and vibrantly coloured accompaniment to Don Barretto's equally lively *La Belle Creole*, Švankmajer's film counterpoints the meticulous order of Bach's music with the marred surfaces of decaying stone walls. Creating abstract shapes which bear a startling resemblance to those of Lye's film, Švankmajer creates expanding craters in the masonry, their growth mapped to the beat of Bach's fugue; scratches are inscribed into the walls in rising and falling waves which, though simple, are suggestive both of kinetic movement and of the rising and falling pitch of the music, the two waves reflecting melody and countermelody respectively. In this simple visual motif the architectural skeletons of Švankmajer's film are made visible as the aural 'force' that drives the film is given material form in the solid surface of the stone. As certain images become associated within certain aspects of the music, a visual grammar is created in equation with the soundtrack and it becomes apparent that there are at least three identifiable structures at work within *Bach*: that of the decaying building, fragmented both literally and by its reduction to a series of images on film; that of Bach's music; and that of the rigorously edited film itself, a combination of both. Just as wood, stone, and clay are materials which interest the filmmaker on their own merits, the forms and structures into which they can be shaped are of equal fascination.

There is a temptation, when encountering the intersection of language used to discuss film and sculpture – cutting, joining, shaping – to think of the two mediums in a similar fashion. Though the physical act of cutting film is confined to those works produced on celluloid, the same terminology applies to digital film; footage is still cut, spliced, joined, and shaped into a final form. This overlap in vocabulary, however, also extends to an overlap of mediums: Joan

Truckenbrod explains that ‘the studio practice of video film sculpture uses light and time as sculpting materials in conjunction with physical materials’ (2012: 38). Similarly, Andrei Tarkovksy entitled his notes on filmmaking *Sculpting in Time* (1986), drawing comparison between the ways in which the plastic sculptor cuts away excess stone or wood to produce a figure, and the way in which filmmaking cuts composed moments from the flow of time. Being both an artwork sculpted from time and a film concerning the physicality of stone and architecture, *Bach* can thus be considered a film sculpture. While Trukenbrod’s definition refers to her own work in which video is projected onto an object to combine the ephemeral and the temporal with the physical, Švankmajer’s film might easily be said to be the inverse of this process: the physical is filtered through the temporal and the ephemeral as matter is turned into light. This is a description of the process that describes filmmaking and, indeed, photography, but it is *Bach*’s status as an animated film that makes it sculptural, each frame painstakingly crafted by the filmmaker.

Indeed, Schmitt informs us that while it was ‘largely improvised in front of the camera’, *Bach* was ‘inspired by certain photographs of Prague walls produced from the mid 1950s by the Czech Surrealist photographer Emila Medková’ (Schmitt, 2012a: 80), proving that, like the sculptor who intuitively knows the shape that his raw material will take, Švankmajer had a definite idea of the finished form of his work. Comparison can also be drawn with the decidedly sculptural animation techniques of Oskar Fishinger:

> Between 1921 and 1930, Fischinger invented an animation system based on successively slicing thin layers from a prepared wax block. The block was prepared in such a way that the movement of the image was contained in the gradual transformation of the object in the depth of the block, rather like the lettering in a stick of seaside rock. (Le Grice, 1977: 30)

Fischinger’s method necessitated the treatment of the wax block so that it contained the series of images which would, frame by frame, become his film; in effect, a solid film, a block of

crystallised time. As can be seen from his *Wax Experiments* (1921-1926), these abstract films were created from a combination of the melted texture of the wax under the studio lights and the shapes which Fischinger carved into the block of raw material before filming, effectually making visible the artist's energy, the heat energy of the studio lamps, and the passage of time. Similarly, in *Bach*, Švankmajer exacerbates the decaying state of the stone walls to create a tactile visual experience which gives physical form to Bach's music, a form which bears remarkable similarity to Fischinger's *Experiments*.

Fischinger's *Experiments* amount to a photographic record of the process of sculpting a block of wax, each frame separated by the time it took the artist to carve away the next layer of wax. Subsequently, the movement we see depicted by the abstract shapes on screen are reflective not of real-time movement, but elliptical time connected by the energy and labour of preparing the next frame of animation. As such, his method of animating with sculpted wax can be connected with Švankmajer's work in clay, stone, and other such materials, and also with the concept of sculpting time. While this argument might be made of any hand-crafted animation, the distinction lies in the use of three-dimensional materials; in Lye's work, too, there is a distinction between kinetic *art*, such as his work on direct film, and his later ventures in kinetic *sculpture*. Of the latter medium, Harry Kramer writes:

> kinetic sculpture has wiped out the border between the plastic and the performing arts. Every one of these works is a frozen emotional experience for the purpose of emotional evocation […] They are robots, branded by a limited diagram of motion, unreal, senseless, superfluous. (Cited in Selz, 1966: 39)

The applications of this statement to the animated work of filmmakers discussed in this essay is two-fold: firstly, the question of the performance aspect of these animated films, raised above in reference to Lye's kinetic art, will be examined further as part of my discussion of the work

of the Quays below; secondly, that of the 'frozen emotional experience' can be directly connected to the idea that found objects contain latent emotional material.

In order to connect the idea of the latent contents of inanimate objects with that of kinetic sculpture, it is first necessary to engage with the concept of indexicality. If each frame of Fischinger's *Wax Experiments* is representative of a period of labour, of sculpture, then each frame is also a signifier of both the now expired form the object took in that instant and the period of time that has transpired since the last frame. In this sense, each frame is both symbolic of a moment and an icon of the sculpted wax. Mary Ann Doane explains:

> Photography and film would seem to be excellent examples of sign systems that merge icon, index, and to some extent, symbol. Although indexical because the photographic image has an existential bond with its object, they are also iconic in relying upon a similarity with that object. To the extent that photography and film have recourse to language (or are labelled themselves), they invoke the symbolic realm. (Doane, 2007: 134)

By the same token that each frame is iconic of the object, each object is, to Švankmajer and the Quays, a symbol of its latent emotional content. The meaning that the animators identify in their objects is unlikely to be the same as that perceived by their audience, but it is on this instinctive level that they choose their materials. The range of objects from which they can choose thus becomes their palette, their films an experiential collage; emotion and memory are the animating forces behind their sculptural figures. Once edited into its final form, a film becomes, in Kramer's words, 'a limited diagram of motion' (Cited in Selz, 1966: 39), a set programme of movement produced by the alchemical reconstitution of thousands of frozen moments, each represented by an individual frame. These individual 'frozen emotional experience[s]' then become a single more potent one, just as numerous objects are utilised to create the Arcimboldian heads that duel in the first act of *Dimensions*.

The idea of a film as a whole, as form rather than content, as a type of kinetic art has already been touched upon in relation to Truckenbroad's theories on video film sculpture in

which light is combined with matter to give film a physical presence. Film, as a temporal artwork displayed by means of projecting light onto a solid surface, is at once a programmed set of movements which is infinitely repeatable and an artwork which will vary infinitesimally at every showing, reacting to differences in the projector, projection surface, and other such variations in its display conditions down to the dance of dustmotes between lens and screen. Selz writes:

> Although Rodin, in his statement about the significance of equilibrium and movement in sculpture, referred to the movement of light animating the surface textures and not to actual movement, it is important to realize that by making bronze surfaces subject to the play of light, Rodin, and even more, his contemporary Medardo Rosso, clearly revealed a new concern with the aspects of change. "Nothing is motionless," Rosso wrote, "…every object participates in the swift and multiple improvisations of nature." (1966: 5)

For Rodin, it is light which denotes the movement and animation of a sculpture, not, as Selz points out, motion of the form itself. This assertion lends itself to the identification of stop-motion animation with kinetic sculpture most effectively, given that film, like photography, is a form dependent on light to both capture and project images. Rodin's interest in light as an external animating force and Švankmajer's belief in the latent content of objects are combined in the filming of his stop-motion work; the former suggests that inanimate objects are, in fact, always in motion, while the latter argues that objects merely contain the potential for movement. In Švankmajer's films, however, the external influence and the internal energy are combined as the filmmaker draws out the latent content of the object and makes it visible by means of the animation process, utilising light and movement borrowed from the animator to set the inanimate in motion.

Although this argument is problematised by Selz's observation that 'the action [of kinetic artworks] attempts to be indeterminate' (1966: 5), he goes on to point out that 'since the environmental sculptures of Ferber and Goeritz, sculpture has assumed a new relationship

with the spectator, who finds himself surrounded by the sculpture he is allowed to enter' (1966: 10). It is possible, then, to consider the cinema as an installation space, an immersive experience in which the play of the projected light on the screen's surface becomes not just the visualisation of narrative, but a kinetic, video sculpture in its own right. When viewed in such a way, the cinema space becomes not just a venue for the viewing of Švankmajer's films, but an expansion of his ideas surrounding the ability of inanimate objects to retain experiential and emotional memories.

In the same way that *Dimensions* is indelibly marked by the hands of Pospísilová, making visible an invisible presence by means of the fingerprints left on the surface of the clay, Švankmajer's *The Fall of the House of Usher* (1980) retells Poe's haunting tale through the marks left by the living on the inanimate. Removing the human figures from the story, Švankmajer uses a combination of a spoken narrative and animated objects to convey the intense emotional content of the text. The voiceover creates the sense of a reconstruction, an interpretation of the horrifying events that took place in the house and its surroundings as understood through the elicitation of the latent content of the space. Voice and image clearly occupy two different timeframes, and as such the story becomes an echo, a memory freed from the objects that witnessed it by the intermediary magic of the animating camera. The shots of the writhing mud in the House's grounds are particularly expressive, reminiscent of Švankmajer's ventures into gestural sculpture which, Vasseleu explains, 'are fossilized impressions made by injections of emotional agitation that can pass directly into our own psyches and affect or animate us too, rather than being passive, representational artworks' (2009: 149). The gestural sculpture is a form generated by a releasing of energy, one continuous outburst of movement, a practice at odds with the slow process of animation, and Švankmajer recalls the difficulty of restraining himself during filming (Schmitt, 2012b: 168). As Schmitt points out, Poe's 'striking images of anxiety and mounting madness link up with the interest

the filmmaker maintains in "fear" as an unleashing of the creative process' (2012b: 167), and as such the effect of layering image after image of barely restrained gestural expression lends itself to the text's atmosphere of cumulative dread as it nears its ghastly climax.

Usher, perhaps more so than any other of Švankmajer's films, makes evident the influence of an invisible motivating force other than that of the animator's hand. Although nearly all of his films feature objects moving independently of human manipulation, the motion in *Usher* is overtly derived from the heightened emotional states of the characters in the story, the object's movements echoes of a human presence. The events that transpired on the Usher estate have saturated it with experiential memory, transforming it into an immersive environmental sculpture, a single bubble of frozen emotional experience through which Švankmajer's astute eye guides his audience.

The Quay Brothers: Choreographing the Liminal

Like Lye, who 'started out as a painter' (Horrocks, 2009: 129), and Švankmajer, whose initial training was in puppetry, the Brothers Quay came to animation from another artistic practice. Having trained as illustrators at London's RCA, the Quays came to feel 'frustration with the frozen image, and not amplifying it by sound and rhythm and music and sequential time' (Buchan, 2001: 7) and, 'inspired by poster-artists-turned-animators Lenica and Borowczyk' (Kitson, 2008: 82), graduated to the production of the moving image. Facilitated by friend and producer Keith Griffiths, who was responsible for securing funding for their first film from the BFI, the Quays began experimenting with puppet animation. They recall:

> The armature was one of those ropey artist's armatures you get in art shops, which was useless, totally useless. In fact, it was so useless that we realised it was almost impossible to make one consistent movement, that we decided we'd

> have to make the whole world be in flux around him to cover up the insufficiency of the puppet. (Quay Brothers, 2006)

Part of the learning process though this may have been, the Quays embraced the imperfections of their puppets and constructed an aesthetic around it, showing a solidarity with the broken, the flawed and the discarded that they share with Švankmajer. The worlds that they create for their films occupy liminal realities, isolated pockets and grottos layered with dust and warped by age. Their narrative interests, too, lie not with conventional dramaturgy but the associative emotions and history evoked by their materials, sourced from flea markets, and the music which is the lifeblood of their films. Although their work draws largely on that of European artists and writers, the Quays do not strive to adapt their source material in the traditional manner, striving instead to perform readings of them, to channel the spirit of the piece and express a sense of it that is communicated to their audience through atmosphere and the gestural art of their puppets. Pairing dark and oppressive { HYPERLINK "http://www.thefreedictionary.com/d%C3%A9cor" } with atonal or avant-garde music, the Quays create a sense of eerie unease, an atmosphere pregnant with meaning that demands to be felt rather than described.

In its wordless expressivity that resists any attempt to be adequately conveyed in words, the work of the Quays resonates with kinetic sculptor Gianni Columbo's observations on his art: 'our work, in particular, consists in giving a concrete realization to ideas which may be communicated only optically, not, for example, verbally, and which otherwise would go unexpressed' (cited in Selz, 1966: 32). This claim holds true for the work of the Quays, most of which takes the form of a poetic emotional response to, or reading of the work of, another artist whom they admire – Bruno Schulz, Franz Kafka, Robert Walser. The puppets that populate their films are generally assembled from trinkets and scraps of found material – wood, metal, fabric – all chosen for their tactility and patina of age, choreographed in balletic figures

of motion that speak to the essence of their source material. In this regard, their methodology bears more than a passing resemblance to that of prolific kinetic sculptor Jean Tinguely; as Peter Selz observes, 'what is important is the found object he sets in motion. His movement is not intrinsic, is not part of the poem; it is superimposed, it intensifies, it makes the poem sound closer and louder' (Selz, 1966: 14). 'We build everything from the ground up', the Brothers explain; a 'combination of found objects creates the puppet', and the puppet gives them a sense of the shape their film will take (Brothers Quay, 2009). Their beautiful, sculptural sets thus grow around the armature, indeed grow *from* the armature, externalising the emotional and mental state that the Quays perceive in it.

Like Švankmajer, they employ the camera as a means of making visible the ephemeral forces that permeate their animated worlds. But unlike Švankmajer, whose films are largely encoded with societal and political commentary, thinly veiled as the destruction and deconstruction of materials and systems, be it crumbling stone and squashed clay or human conversation, the Quays are more interested in closed worlds and systems, liminal, subjective, and divorced from our reality. Their films, as they point out, 'are fixed systems in which an intruder arrives, and the intruder either upsets the universe, or unbalances it' (Brothers Quay, 2009). They are riffs on universal themes, philosophical rather than overtly political, and their interest in such writers as Schulz and Kafka evidences their interest in the troubled psyche; the influences on which they draw and the worlds that they create occupy a liminal space within the topography of the subconcious and their puppets are our guides, couched upon the threshold.

By their very nature as imitations of the human form, puppets have long been considered avatars, or loci, for the projection of the human situation. As Paul Wells writes, 'the puppet and the marionette tradition in Czechoslovakia was important in sustaining the Czech cultural and aesthetic identity in the face of other influences, particularly that of the German

language' (Wells, 1997: 186). These effigies of human life were not just tools for entertainment purposes, but loaded symbols of a nation charged with maintaining a cultural system in the face of an interrupting force. Steve Weiner expands:

> Itinerant puppeteers had for centuries carried debased versions of theatre into the countryside and poor parts of the cities. They unwittingly preserved the oral, archaic powers of expression. Plays were reduced to essentials and sometimes ended without dramatic resolution. Puppets, especially those representing the poor, were grotesque. Appearing as types, not personalities, their feet filled with lead, they moved stiffly without resistance. Their style of movement could be, at times, metaphysical metaphors. (Weiner, 1997: 29)

The puppet figures, already abstracted from the human form by their scale, become further removed from reality in their archetypal caricaturing and can thus be thought of as semiotic referents of humanity, much like an earlier form of ritualistic effigy: the mask. M. Subbiah writes that 'masks may disguise a penitent or preside over important ceremonies; they may help mediate with spirits, or offer a protective role to the society who utilise their powers', and 'in some cultures it is also believed that the wearing of a mask will allow the wearer to take on the characteristic of that mask's representation' (Subbiah, 2013: 22). The effigy, then, be it mask, puppet, or otherwise, holds power; where the mask is a symbol of a spirit or god, a means of channelling a divine or Other power, the puppet works in inverse fashion, as an avatar of the human mind or spirit.

In her study *The Secret Life of Puppets*, Victoria Nelson suggests that 'we can locate our unacknowledged belief in the immortal soul by looking at the way that human simulacra – puppets, cyborgs and robots – carry on their roles as direct descendents [*sic*] of the graven image in contemporary science fiction stories and films' (Nelson, 2001: viii). While such comparisons have been made and expounded in reference to the Other and Orientalism by such scholars as Joon Yang Kim (2013), it is Nelson's mention of the graven image which is of

interest here. The significance of the term is two-fold: Nelson employs it to denote a spiritual quality in the simulacra she discusses, but etymologically, the word 'graven' leads back to the old English 'grafan', 'to dig', and so naturally also the more recent form, 'grave'. 'Grave', of course, leads to 'engrave', and so a connection between the graven image, as an image which is carved, and the art of sculpture can be made. The puppet, then, can be considered a moving graven image, both in the sense that it has been shaped and crafted and that some spiritual or metaphysical significance can be attached to it. If the puppet can be consecrated an avatar of the human psyche, it is no surprise that both Nelson and Suzanne Buchan (2001) make reference to Joseph Campbell's monomyth[1] structure in their respective studies of puppets and the Brothers Quay. The puppet acts as an avatar for the viewer, a veritable Theseus exploring the labyrinthine depths of the collective unconscious, the hero entering Campbell's 'Belly of the Whale' (Campbell, 2008: 74–79).

Of all the films in the Quays oeuvre, *Street of Crocodiles* (1986) is both most often written about and best illustrative of the idea of the puppet as adventurer in the unconscious. It features the transference of consciousness from a live actor to a time-weathered puppet that acts as our guide through the dusty maze of the eponymous avenue. Surrounding the sinister tailor, the sexualised slabs of liver, and the grotesque dolls that lurk behind grimy glass is an environment in flux; threads and ribbons are continually broken and the screws that hold the labyrinth together unthread themselves with frightening regularity. Echoed here, in the apparent dismantling of the Street of Crocodiles, is Švankmajer's interest in the deconstruction of his materials, but also the fascination with screws, wires, pins, nails, and other such manmade debris that featured in Tinguely's sculptures. Selz observes:

> While Tinguely mocks the world we live in, Kramer invents a world of his own and fills it with suitable furniture. Parts are made to move in jerky sequence

[1] Campbell identifies a common narrative structure in heroic myth which, in its most simplistic state, is composed of three stages: the hero's departure from his home environ; his crossing of a threshold and initiation into secret knowledge or strength; and finally, his subsequent return to civilisation with a boon.

> with intermittent sounds to suggest live inhabitants of a private world. The American, Robert Breer, also populates private worlds with wry, perverse, humorous, intensely personal organisms. Even if the forms are sometimes abstract, these three make a subjective figurative world, brimming with associative images from the human environment. (Selz, 1966: 14)

Again, the Quays' mode of practice bears remarkable similarity to that of notable kinetic sculptors; their worlds too are subjective and figurative, and yet the found objects and aged materials from which they craft their liminal spaces quietly refer to a temporal and emotional space long since passed. Within these realms, their armatures enact balletic choreographies that delight in the elegance of their own movements, inviting their audience to interpret their motions while simultaneously commanding us simply to become absorbed in the emotive qualities of their dynamic performance.

At MoMA's 2012 retrospective of their work, the Quays explained that they wanted people to experience the exhibition as a maze because it mirrored their own experiences as they ventured into the world of film production (Lucre, 2012). Their dark and eerie exhibitions thus become brooding grottos in their own rights, immersive artworks that recall Selz's description of environmental sculpture in which the viewer 'finds himself surrounded by the sculpture he is allowed to enter' (1966: 10). The viewer thus becomes a participant, adopting the role of the puppet within the film and exploring the psychic typography of the Quays' Universum. The puppet, as an avatar of the viewer, is a locus for the projection of the self, a mask which helps us to mediate with the spirit of Schulz as it is channelled through the world created by the Quays – Buchan's 'metaphysical playroom'(2001). Where kinetic sculptures react to and make visible 'such phenomena of Nature as magnetism, hydraulics, aerodynamics, vibration, periodicity, reflected or refracted light' (Selz, 1966: 14–15), the sculptural puppets of the Quays channel the metaphysical forces of history, emotion, and the human psyche.

While Švankmajer's puppets are largely shaped from clay, raw meat, or found objects, the Quays' are more often crafted armatures, humanoid and visibly jointed. In *Street of*

Crocodiles they use a time weathered doll, but the puppets of other films such as *Rehearsals for Extinct Anatomies* (1987) and *Maska* (2010) are more evidently mechanical. The temptation with such obviously mechanical puppets, of course, is to compare them with the automata of old, those humanoid machines which acted out 'limited diagrams of motion' as novelties. However, there is some worth in this comparison, for as Selz observes:

> Lessing's definitive distinction between the plastic arts which exist in space and the temporal arts which develop in time could easily have been contradicted by all the ingenious moving objects which, in the course of centuries, probably have delighted the populace far more than the statue of the *Laocoön*. Courts and fairs in the eighteenth century were filled with complicated clocks, mechanical magicians, wizards and conjurors, fantastic automata and artificial singing birds. (Selz, 1966: 3)

Model animation, which is a composite of plastic and temporal art, likewise blurs the cut and dry distinction between Lessing's definitions. The curios of the past hold a particular appeal for the Quays, and automata feature in several of their short works as well as their second feature, *The Piano Tuner of Earthquakes* (2005), in which they play a central role. Neither machines nor living beings, automata occupy a curious status for the Quays as both ingenius mechanical works and performers. Their automata-styled puppets act both as indices of the human form and as a means of illustrating, through their balletic movements, the essence of the work by which their performance is inspired; their robotic and yet elegant actions are choreographed to the immersive soundscapes that saturate the Quays' films, evoking and intensifying the emotional content embedded in their source material.

The Calligrapher (1991) represents another intersection between the animated work of the Quays and the motion experiments of the kinetic sculptors. The minute long short, created for and rejected by BBC2, goes as follows: a seated figure, crafted from exquisitely calligraphed paper, plucks a feathered quill from the ceiling above him; he applies pen to paper, at which point the quill multiples into a dozen identical quills, each tracing their own line; the pens trace the shape of an elegant feather which is subsequently plucked from the page to form

yet another quill; the figure places the quill behind his ear and looks to the ceiling, suggesting that these actions will repeat themselves. The Quays' paper automaton speaks not only to their post-Enlightenment period influences, but also to a similar interest in such devices held by Tinguely:

> Tinguely's *méta-matics*, whose ballpoint pens, fixed in rapidly moving arms, make colored drawings to the accompaniment of great clamor and rattle, have their precedent in the *dessinateurs* of Pierre Jaquet-Droz. Jaque-Droz, also a Swiss, constructed a mechanical doll in the 1774 […] which could make a charming drawing of a cupid riding a chariot which was drawn by a butterfly. The important difference between Tinguely's machine and that of his Swiss predecessor, however, is not the gratuitous result as opposed to that earlier decorative vignette, nor the loudly nervous energy expended by the *méta-matic* compared to the deliberate and calm movement of the *dessinateur*, but the fact that the latter could only make four different drawings when adjusted, whereas the modern machine's output is infinitely varied and operates according to the laws of chance. Modern kinetic sculpture is fortuitous, not pre-determined. Or rather, it is designed to work at random. (Selz, 1966: 4)

As Selz notes, the divisive difference between these two drawing machines is their programme of motion: where the *dessinateur* is designed to produce a series of pre-determined figures, Tinguely's *méta-matic* operates entirely at random within the parameters of its figure of motion. Likewise, the puppets that occupy the films discussed herein cannot, with the exception of minute differences in each projection, perform a programme of movement other than that in which they have been animated. However, the interest that the filmmakers express in the process of motion, programmed or otherwise, as a means of producing art illuminates common ground between the practises.

Similarly, the Quays' film *In Absentia* (2000), made in collaboration with avant-garde composer Karlheinz Stockhausen as part of the BBC's Sound on Film series, features some innovative use of animated light. As Buchan writes, 'the Quays animated naturally occurring sunlight as it passed on its solar trajectory, streaming through the studio windows onto the sets. In the animated dream sequences, it is shattering, blinding, unpredictable, a brilliant visual rendering of Stockhausen's electrifying and electronic score' (Buchan, 2014: 14). With the

animation of light, we return once again to Rodin's theory of light as an animating force rather than motion, another ephemeral, though rather more visible, force than the likes of magnetism. This fascination with energy in an abstract form also recalls the work of Otakar Vávra:

> In 1930, Vávra directed *Svetlo proniká tmou* (*The Light Penetrates the Dark*) in collaboration with the photographer František Pilát. It featured the work of the sculptor Zdeněk Pešánek, who had been chairman for the Club for New Film and had pioneered kinetic art, being one of the first to experiment with neon light. Vávra and Pilát's film featured the kinetic sculpture which Pešánek made for the Edison Transformer Station in Prague and again focused on the attractions of electricity in abstract form. (Hames, 2008: 13)

Where the Quays were disappointed in the inability of their Black Drawings[2] to convey a sense of narrative through the dynamism of movement and music, they found in the animated film the capacity to portray invisible forces through the manipulation of light and movement. Working in a temporal medium allowed them to suggest the presence of the invisible through its very lack of visibility; just as kinetic sculpture lends visibility to the natural forces of the physical world, the sculptural puppets of the Quays' films give physicality and life to history, emotion, and psychology.

Conclusion

For both Švankmajer and the Quays, the objects and puppets that populate their films take on roles akin to that of performers. The materials from which they are composed are important to the filmmakers, but so too are their emotional contexts, the latent meaning imparted to them through touch. It has been the intention of this article to compare the means by which these animators convey, or release, this content – through a combination of synaesthesia, choreographed movement, and artistic practice – with the ideas that motivate kinetic sculpture.

[2] A collection of monochromatic pencil drawings the Quays produced in the 1970s which represent a landmark in their transition from illustration to animation.

Not only does their particular brand of stop-motion animation enable these filmmakers to channel the past through their found objects, they can create solid artworks which move, sculptures which are kinetic. They also, by foregrounding the ephemeral and unseen contents of their objects, participate in the art of kinetic sculpture; whereas the practitioners of the 1960s made use of gravity, electricity, water, and other such natural forces in their art, Švankmajer and the Quays move their sculptures in accordance with more subjective, human energies. As Buchan puts it, 'they move in intricate patterns in the spaces and soundscapes that surround them. These assemblages and material configurations are animated through the expressive realms of human thought, dream, and experience'(2001: 44). Where Švankmajer shapes the material surfaces of the existing physical world, thrusting his hands into the primordial clay of the Usher estate, the Quays craft environments of their own, building physical representations of the psychic topography of their puppets. These animators share a sensibility, and though the specifics of their approaches to sculpture may vary slightly, their finished works, whether as a means of making sculpture move or as projected video sculptures, can be considered kinetic art. As the boundaries between the plastic and kinetic arts continue to erode and blend, definitions will likely follow suit; as Truckenbrod and her video film sculpture show, film facilitates the fusion of the physical and the ephemeral as matter is transfigured into light, and light into diagrams of motion.

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